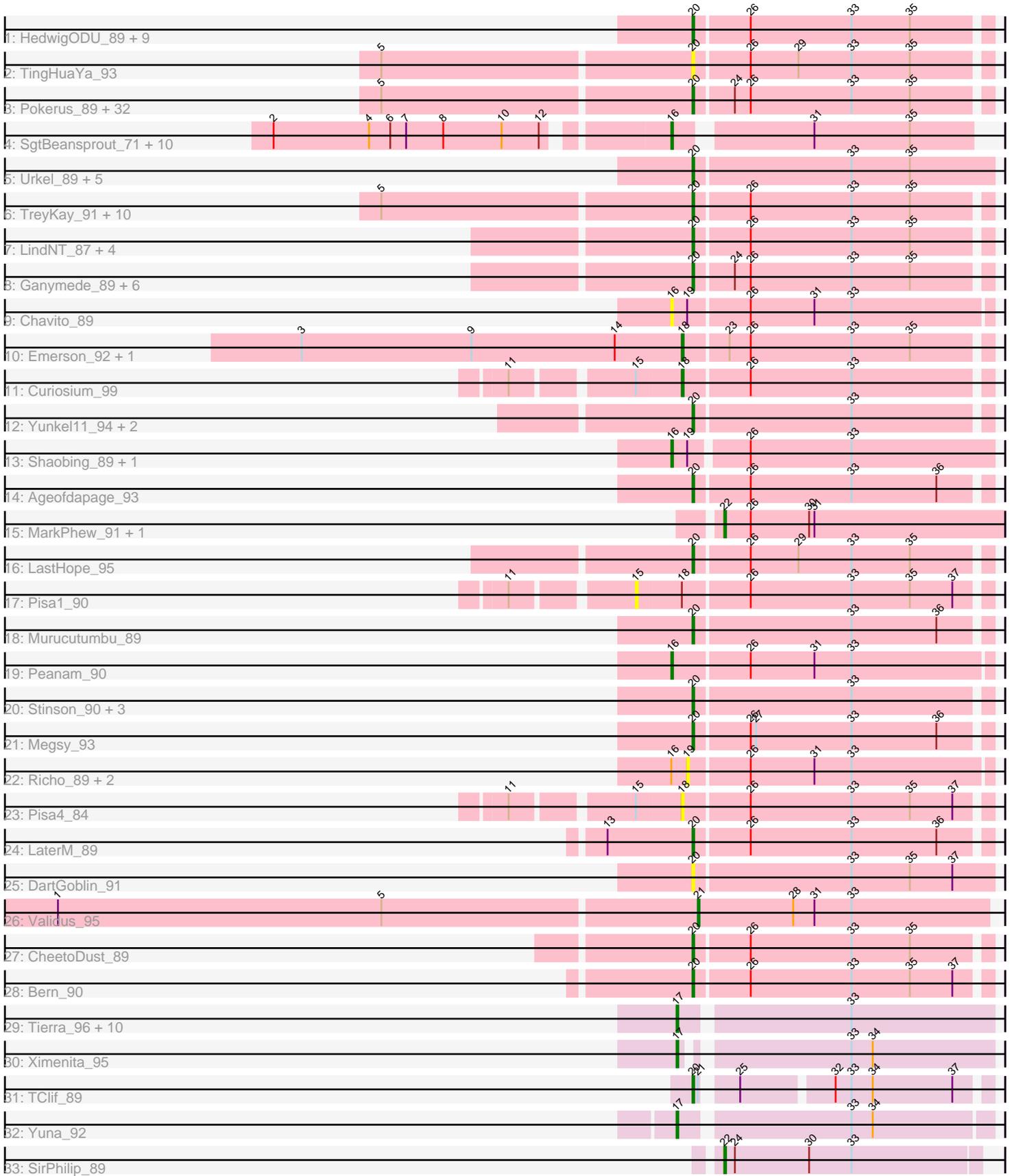


Pham 283600



Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

Pham 283600 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283600 has 129 members, 13 are drafts.

Phages represented in each track:

- Track 1 : HedwigODU_89, Adephagia_88, Clipper_93, TaiwanKao_90, JAWS_88, MacKat_85, ActinUp_90, BGlluviae_88, Zabiza_85, Veliki_90
- Track 2 : TingHuaYa_93
- Track 3 : Pokerus_89, BEEST_89, ShiaSurprise_90, Homura_88, CallaLilly_89, Lunahalos_89, Spock_89, Capricorn_89, MeaningOfLife_91, Tachez_89, Twitch_89, CaseJules_91, Piatt_88, Durfee_89, Rosmarinus_89, Topper_89, Dalmuri_89, Hyperbowlee_88, Jarvi_89, Peel_89, Jeckyll_89, Llorens_89, Padfoot_89, CREW_88, BaghaKamala_88, Boiiii_89, Asayake_89, Joy99_90, Mynx_90, Inky_89, Atiba_90, Blizzard_89, Belladonna_89
- Track 4 : SgtBeansprout_71, Torres_73, Nikao_73, Nutello_70, Teejan_72, Trice_70, LilPharaoh_71, Enkosi_72, Mdavu_71, Binglebops_70, Amelie_70
- Track 5 : Urkel_89, SamuelLPlaqson_89, DrHayes_89, Bella96_90, Anma_89, TiniBug_88
- Track 6 : TreyKay_91, Anaya_92, CrimD_89, Rapunzel97_91, AlishaPH_82, TruffulaTree_91, BarrelRoll_89, Prithvi_91, Slimphazie_91, Jayhawk_91, Adonis_89
- Track 7 : LindNT_87, Deby_89, Angelica_86, Sulley_86, Tiri_89
- Track 8 : Ganymede_89, Beezoo_92, QuincyRose_87, Ramen_90, Apocalypse_91, YoureAdopted_88, Zavala_91
- Track 9 : Chavito_89
- Track 10 : Emerson_92, Padpat_93
- Track 11 : Curiosium_99
- Track 12 : Yunkel11_94, Guanica15_95, Efra2_96
- Track 13 : Shaobing_89, Niklas_90
- Track 14 : Ageofdapage_93
- Track 15 : MarkPhew_91, Nibb_91
- Track 16 : LastHope_95
- Track 17 : Pisa1_90
- Track 18 : Murucutumbu_89
- Track 19 : Peanam_90
- Track 20 : Stinson_90, Illumine_93, Devera_95, Dole_92
- Track 21 : Megsy_93
- Track 22 : Richo_89, McMater_89, Dartin_89
- Track 23 : Pisa4_84
- Track 24 : LaterM_89
- Track 25 : DartGoblin_91
- Track 26 : Validus_95
- Track 27 : CheetoDust_89

- Track 28 : Bern_90
- Track 29 : Tierra_96, PhelpsODU_86, Cain_96, Bryler_88, Shadow1_93, Phrank_96, Unicorn_96, Sunflower1121_93, Tigress9_94, Syra333_92, Krueger_93
- Track 30 : Ximenita_95
- Track 31 : TClif_89
- Track 32 : Yuna_92
- Track 33 : SirPhilip_89

Summary of Final Annotations (See graph section above for start numbers):

The start number called the most often in the published annotations is 20, it was called in 85 of the 116 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ActinUp_90, Adephegia_88, Adonis_89, Ageofdapage_93, AlishaPH_82, Anaya_92, Angelica_86, Anma_89, Apocalypse_91, Asayake_89, Atiba_90, BEEST_89, BGIlluviae_88, BaghaKamala_88, BarrelRoll_89, Beezoo_92, Bella96_90, Belladonna_89, Bern_90, Blizzard_89, Boiiii_89, CREW_88, CallaLilly_89, Capricorn_89, CaseJules_91, CheetoDust_89, Clipper_93, CrimD_89, Dalmuri_89, DartGoblin_91, Deby_89, Devera_95, Dole_92, DrHayes_89, Durfee_89, Efra2_96, Ganymede_89, Guanica15_95, HedwigODU_89, Homura_88, Hyperbowlee_88, Illumine_93, Inky_89, JAWS_88, Jarvi_89, Jayhawk_91, Jeckyll_89, Joy99_90, LastHope_95, LaterM_89, LindNT_87, Llorens_89, Lunahalos_89, MacKat_85, MeaningOfLife_91, Megsy_93, Murucutumbu_89, Mynx_90, Padfoot_89, Peel_89, Piatt_88, Pokerus_89, Prithvi_91, QuincyRose_87, Ramen_90, Rapunzel97_91, Rosmarinus_89, SamuelLPlaqson_89, ShiaSurprise_90, Slimphazie_91, Spock_89, Stinson_90, Sulley_86, TClif_89, Tachez_89, TaiwanKao_90, TingHuaYa_93, TiniBug_88, Tiri_89, Topper_89, TreyKay_91, TruffulaTree_91, Twitch_89, Urkel_89, Veliki_90, YoureAdopted_88, Yunkel11_94, Zabiza_85, Zavala_91,

Genes that have the "Most Annotated" start but do not call it:

-

Genes that do not have the "Most Annotated" start:

- Amelie_70, Biglebops_70, Bryler_88, Cain_96, Chavito_89, Curiosium_99, Dartin_89, Emerson_92, Enkosi_72, Krueger_93, LilPharaoh_71, MarkPhew_91, McMater_89, Mdavu_71, Nibb_91, Nikao_73, Niklas_90, Nutello_70, Padpat_93, Peanam_90, PhelpsODU_86, Phrank_96, Pisa1_90, Pisa4_84, Richo_89, SgtBeansprout_71, Shadow1_93, Shaobing_89, SirPhilip_89, Sunflower1121_93, Syra333_92, Teejan_72, Tierra_96, Tigress9_94, Torres_73, Trice_70, Unicorn_96, Validus_95, Ximenita_95, Yuna_92,

Summary by start number:

Start 15:

- Found in 3 of 129 (2.3%) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Pisa1_90 (K1),

Start 16:

- Found in 18 of 129 (14.0%) of genes in pham
- Manual Annotations of this start: 12 of 116
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Amelie_70 (K1), Binglebops_70 (K1), Chavito_89 (K1), Enkosi_72 (K1), LilPharaoh_71 (K1), Mdavu_71 (K1), Nikao_73 (K1), Niklas_90 (K1), Nutello_70 (K1), Peanam_90 (K1), SgtBeansprout_71 (K1), Shaobing_89 (K1), Teejan_72 (K1), Torres_73 (K1), Trice_70 (K1),

Start 17:

- Found in 13 of 129 (10.1%) of genes in pham
- Manual Annotations of this start: 12 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bryler_88 (K6), Cain_96 (K6), Krueger_93 (K6), PhelpsODU_86 (K6), Phrank_96 (K6), Shadow1_93 (K6), Sunflower1121_93 (K6), Syra333_92 (K6), Tierra_96 (K6), Tigress9_94 (K6), Unicorn_96 (K6), Ximenita_95 (K6), Yuna_92 (K6),

Start 18:

- Found in 5 of 129 (3.9%) of genes in pham
- Manual Annotations of this start: 3 of 116
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Curiosium_99 (K1), Emerson_92 (K1), Padpat_93 (K1), Pisa4_84 (K1),

Start 19:

- Found in 6 of 129 (4.7%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Dartin_89 (K1), McMater_89 (K1), Richo_89 (K1),

Start 20:

- Found in 89 of 129 (69.0%) of genes in pham
- Manual Annotations of this start: 85 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp_90 (K1), Adephagia_88 (K1), Adonis_89 (K1), Ageofdapage_93 (K1), AlishaPH_82 (K1), Anaya_92 (K1), Angelica_86 (K1), Anma_89 (K1), Apocalypse_91 (K1), Asayake_89 (K1), Atiba_90 (K1), BEEST_89 (K1), BGlluviae_88 (K1), BaghaKamala_88 (K1), BarrelRoll_89 (K1), Beezoo_92 (K1), Bella96_90 (K1), Belladonna_89 (K1), Bern_90 (K1), Blizzard_89 (K1), Boiiii_89 (K1), CREW_88 (K1), CallaLilly_89 (K1), Capricorn_89 (K1), CaseJules_91 (K1), CheetoDust_89 (K1), Clipper_93 (K1), CrimD_89 (K1), Dalmuri_89 (K1), DartGoblin_91 (K1), Deby_89 (K1), Devera_95 (K1), Dole_92 (K1), DrHayes_89 (K1), Durfee_89 (K1), Efra2_96 (K1), Ganymede_89 (K1), Guanica15_95 (K1), HedwigODU_89 (K1), Homura_88 (K1), Hyperbowlee_88 (K1), Illumine_93 (K1), Inky_89 (K1), JAWS_88 (K1), Jarvi_89 (K1), Jayhawk_91 (K1), Jeckyll_89 (K1), Joy99_90 (K1), LastHope_95 (K1), LaterM_89 (K1), LindNT_87 (K1), Llorens_89 (K1), Lunahalos_89 (K1), MacKat_85 (K1), MeaningOfLife_91 (K1), Megsy_93 (K1), Murucutumbu_89 (K1), Mynx_90 (K1), Padfoot_89 (K1), Peel_89 (K1), Piatt_88 (K1), Pokerus_89 (K1), Prithvi_91 (K1), QuincyRose_87 (K1), Ramen_90 (K1), Rapunzel97_91 (K1), Rosmarinus_89 (K1), SamuelLPlaqson_89 (K1), ShiaSurprise_90 (K1), Slimphazie_91 (K1), Spock_89 (K1), Stinson_90 (K1),

Sulley_86 (K1), TClif_89 (K6), Tachez_89 (K1), TaiwanKao_90 (K1), TingHuaYa_93 (K1), TiniBug_88 (K1), Tiri_89 (K1), Topper_89 (K1), TreyKay_91 (K1), TruffulaTree_91 (K1), Twitch_89 (K1), Urkel_89 (K1), Veliki_90 (K1), YoureAdopted_88 (K1), Yunkel11_94 (K1), Zabiza_85 (K1), Zavala_91 (K1),

Start 21:

- Found in 2 of 129 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 116
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Validus_95 (K1),

Start 22:

- Found in 3 of 129 (2.3%) of genes in pham
- Manual Annotations of this start: 3 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MarkPhew_91 (K1), Nibb_91 (K1), SirPhilip_89 (K6),

Summary by clusters:

There are 2 clusters represented in this pham: K1, K6,

Info for manual annotations of cluster K1:

- Start number 16 was manually annotated 12 times for cluster K1.
- Start number 18 was manually annotated 3 times for cluster K1.
- Start number 20 was manually annotated 84 times for cluster K1.
- Start number 21 was manually annotated 1 time for cluster K1.
- Start number 22 was manually annotated 2 times for cluster K1.

Info for manual annotations of cluster K6:

- Start number 17 was manually annotated 12 times for cluster K6.
- Start number 20 was manually annotated 1 time for cluster K6.
- Start number 22 was manually annotated 1 time for cluster K6.

Gene Information:

Gene: ActinUp_90 Start: 56657, Stop: 56818, Start Num: 20

Candidate Starts for ActinUp_90:

(Start: 20 @56657 has 85 MA's), (26, 56687), (33, 56744), (35, 56777),

Gene: Adephagia_88 Start: 56500, Stop: 56661, Start Num: 20

Candidate Starts for Adephagia_88:

(Start: 20 @56500 has 85 MA's), (26, 56530), (33, 56587), (35, 56620),

Gene: Adonis_89 Start: 56698, Stop: 56859, Start Num: 20

Candidate Starts for Adonis_89:

(5, 56527), (Start: 20 @56698 has 85 MA's), (26, 56728), (33, 56785), (35, 56818),

Gene: Ageofdapage_93 Start: 57508, Stop: 57669, Start Num: 20

Candidate Starts for Ageofdapage_93:

(Start: 20 @57508 has 85 MA's), (26, 57538), (33, 57595), (36, 57643),

Gene: AlishaPH_82 Start: 53889, Stop: 54050, Start Num: 20

Candidate Starts for AlishaPH_82:

(5, 53718), (Start: 20 @53889 has 85 MA's), (26, 53919), (33, 53976), (35, 54009),

Gene: Amelie_70 Start: 52418, Stop: 52576, Start Num: 16

Candidate Starts for Amelie_70:

(2, 52208), (4, 52262), (6, 52274), (7, 52283), (8, 52304), (10, 52337), (12, 52358), (Start: 16 @52418 has 12 MA's), (31, 52487), (35, 52541),

Gene: Anaya_92 Start: 57721, Stop: 57882, Start Num: 20

Candidate Starts for Anaya_92:

(5, 57550), (Start: 20 @57721 has 85 MA's), (26, 57751), (33, 57808), (35, 57841),

Gene: Angelica_86 Start: 55917, Stop: 56078, Start Num: 20

Candidate Starts for Angelica_86:

(Start: 20 @55917 has 85 MA's), (26, 55947), (33, 56004), (35, 56037),

Gene: Anma_89 Start: 56880, Stop: 57047, Start Num: 20

Candidate Starts for Anma_89:

(Start: 20 @56880 has 85 MA's), (33, 56967), (35, 57000),

Gene: Apocalypse_91 Start: 56863, Stop: 57024, Start Num: 20

Candidate Starts for Apocalypse_91:

(Start: 20 @56863 has 85 MA's), (24, 56884), (26, 56893), (33, 56950), (35, 56983),

Gene: Asayake_89 Start: 56818, Stop: 56979, Start Num: 20

Candidate Starts for Asayake_89:

(5, 56647), (Start: 20 @56818 has 85 MA's), (24, 56839), (26, 56848), (33, 56905), (35, 56938),

Gene: Atiba_90 Start: 56466, Stop: 56627, Start Num: 20

Candidate Starts for Atiba_90:

(5, 56295), (Start: 20 @56466 has 85 MA's), (24, 56487), (26, 56496), (33, 56553), (35, 56586),

Gene: BEEST_89 Start: 56818, Stop: 56979, Start Num: 20

Candidate Starts for BEEST_89:

(5, 56647), (Start: 20 @56818 has 85 MA's), (24, 56839), (26, 56848), (33, 56905), (35, 56938),

Gene: BGlluviae_88 Start: 56198, Stop: 56359, Start Num: 20

Candidate Starts for BGlluviae_88:

(Start: 20 @56198 has 85 MA's), (26, 56228), (33, 56285), (35, 56318),

Gene: BaghaKamala_88 Start: 56046, Stop: 56207, Start Num: 20

Candidate Starts for BaghaKamala_88:

(5, 55875), (Start: 20 @56046 has 85 MA's), (24, 56067), (26, 56076), (33, 56133), (35, 56166),

Gene: BarrelRoll_89 Start: 56574, Stop: 56735, Start Num: 20

Candidate Starts for BarrelRoll_89:

(5, 56403), (Start: 20 @56574 has 85 MA's), (26, 56604), (33, 56661), (35, 56694),

Gene: Beezoo_92 Start: 57404, Stop: 57565, Start Num: 20

Candidate Starts for Beezoo_92:

(Start: 20 @57404 has 85 MA's), (24, 57425), (26, 57434), (33, 57491), (35, 57524),

Gene: Bella96_90 Start: 57068, Stop: 57235, Start Num: 20

Candidate Starts for Bella96_90:

(Start: 20 @57068 has 85 MA's), (33, 57155), (35, 57188),

Gene: Belladonna_89 Start: 56621, Stop: 56782, Start Num: 20

Candidate Starts for Belladonna_89:

(5, 56450), (Start: 20 @56621 has 85 MA's), (24, 56642), (26, 56651), (33, 56708), (35, 56741),

Gene: Bern_90 Start: 55076, Stop: 55237, Start Num: 20

Candidate Starts for Bern_90:

(Start: 20 @55076 has 85 MA's), (26, 55106), (33, 55163), (35, 55196), (37, 55220),

Gene: Biglebops_70 Start: 52433, Stop: 52591, Start Num: 16

Candidate Starts for Biglebops_70:

(2, 52223), (4, 52277), (6, 52289), (7, 52298), (8, 52319), (10, 52352), (12, 52373), (Start: 16 @52433 has 12 MA's), (31, 52502), (35, 52556),

Gene: Blizzard_89 Start: 56818, Stop: 56979, Start Num: 20

Candidate Starts for Blizzard_89:

(5, 56647), (Start: 20 @56818 has 85 MA's), (24, 56839), (26, 56848), (33, 56905), (35, 56938),

Gene: Boiiii_89 Start: 56820, Stop: 56981, Start Num: 20

Candidate Starts for Boiiii_89:

(5, 56649), (Start: 20 @56820 has 85 MA's), (24, 56841), (26, 56850), (33, 56907), (35, 56940),

Gene: Bryler_88 Start: 54748, Stop: 54918, Start Num: 17

Candidate Starts for Bryler_88:

(Start: 17 @54748 has 12 MA's), (33, 54838),

Gene: CREW_88 Start: 56621, Stop: 56782, Start Num: 20

Candidate Starts for CREW_88:

(5, 56450), (Start: 20 @56621 has 85 MA's), (24, 56642), (26, 56651), (33, 56708), (35, 56741),

Gene: Cain_96 Start: 57895, Stop: 58065, Start Num: 17

Candidate Starts for Cain_96:

(Start: 17 @57895 has 12 MA's), (33, 57985),

Gene: CallaLilly_89 Start: 56544, Stop: 56705, Start Num: 20

Candidate Starts for CallaLilly_89:

(5, 56373), (Start: 20 @56544 has 85 MA's), (24, 56565), (26, 56574), (33, 56631), (35, 56664),

Gene: Capricorn_89 Start: 56621, Stop: 56782, Start Num: 20

Candidate Starts for Capricorn_89:

(5, 56450), (Start: 20 @56621 has 85 MA's), (24, 56642), (26, 56651), (33, 56708), (35, 56741),

Gene: CaseJules_91 Start: 56818, Stop: 56979, Start Num: 20

Candidate Starts for CaseJules_91:

(5, 56647), (Start: 20 @56818 has 85 MA's), (24, 56839), (26, 56848), (33, 56905), (35, 56938),

Gene: Chavito_89 Start: 57982, Stop: 58158, Start Num: 16

Candidate Starts for Chavito_89:

(Start: 16 @57982 has 12 MA's), (19, 57991), (26, 58024), (31, 58060), (33, 58081),

Gene: CheetoDust_89 Start: 56016, Stop: 56177, Start Num: 20
Candidate Starts for CheetoDust_89:
(Start: 20 @56016 has 85 MA's), (26, 56046), (33, 56103), (35, 56136),

Gene: Clipper_93 Start: 57298, Stop: 57459, Start Num: 20
Candidate Starts for Clipper_93:
(Start: 20 @57298 has 85 MA's), (26, 57328), (33, 57385), (35, 57418),

Gene: CrimD_89 Start: 56666, Stop: 56827, Start Num: 20
Candidate Starts for CrimD_89:
(5, 56495), (Start: 20 @56666 has 85 MA's), (26, 56696), (33, 56753), (35, 56786),

Gene: Curiosium_99 Start: 58643, Stop: 58810, Start Num: 18
Candidate Starts for Curiosium_99:
(11, 58559), (15, 58619), (Start: 18 @58643 has 3 MA's), (26, 58679), (33, 58736),

Gene: Dalmuri_89 Start: 56621, Stop: 56782, Start Num: 20
Candidate Starts for Dalmuri_89:
(5, 56450), (Start: 20 @56621 has 85 MA's), (24, 56642), (26, 56651), (33, 56708), (35, 56741),

Gene: DartGoblin_91 Start: 56728, Stop: 56895, Start Num: 20
Candidate Starts for DartGoblin_91:
(Start: 20 @56728 has 85 MA's), (33, 56815), (35, 56848), (37, 56872),

Gene: Dartin_89 Start: 57633, Stop: 57800, Start Num: 19
Candidate Starts for Dartin_89:
(Start: 16 @57624 has 12 MA's), (19, 57633), (26, 57666), (31, 57702), (33, 57723),

Gene: Deby_89 Start: 57192, Stop: 57353, Start Num: 20
Candidate Starts for Deby_89:
(Start: 20 @57192 has 85 MA's), (26, 57222), (33, 57279), (35, 57312),

Gene: Devera_95 Start: 57498, Stop: 57659, Start Num: 20
Candidate Starts for Devera_95:
(Start: 20 @57498 has 85 MA's), (33, 57585),

Gene: Dole_92 Start: 57501, Stop: 57662, Start Num: 20
Candidate Starts for Dole_92:
(Start: 20 @57501 has 85 MA's), (33, 57588),

Gene: DrHayes_89 Start: 56880, Stop: 57047, Start Num: 20
Candidate Starts for DrHayes_89:
(Start: 20 @56880 has 85 MA's), (33, 56967), (35, 57000),

Gene: Durfee_89 Start: 56818, Stop: 56979, Start Num: 20
Candidate Starts for Durfee_89:
(5, 56647), (Start: 20 @56818 has 85 MA's), (24, 56839), (26, 56848), (33, 56905), (35, 56938),

Gene: Efra2_96 Start: 57967, Stop: 58128, Start Num: 20
Candidate Starts for Efra2_96:
(Start: 20 @57967 has 85 MA's), (33, 58054),

Gene: Emerson_92 Start: 57216, Stop: 57383, Start Num: 18
Candidate Starts for Emerson_92:
(3, 57003), (9, 57099), (14, 57180), (Start: 18 @57216 has 3 MA's), (23, 57240), (26, 57252), (33, 57309), (35, 57342),

Gene: Enkosi_72 Start: 55031, Stop: 55189, Start Num: 16
Candidate Starts for Enkosi_72:
(2, 54821), (4, 54875), (6, 54887), (7, 54896), (8, 54917), (10, 54950), (12, 54971), (Start: 16 @55031 has 12 MA's), (31, 55100), (35, 55154),

Gene: Ganymede_89 Start: 56630, Stop: 56791, Start Num: 20
Candidate Starts for Ganymede_89:
(Start: 20 @56630 has 85 MA's), (24, 56651), (26, 56660), (33, 56717), (35, 56750),

Gene: Guanica15_95 Start: 57656, Stop: 57817, Start Num: 20
Candidate Starts for Guanica15_95:
(Start: 20 @57656 has 85 MA's), (33, 57743),

Gene: HedwigODU_89 Start: 56657, Stop: 56818, Start Num: 20
Candidate Starts for HedwigODU_89:
(Start: 20 @56657 has 85 MA's), (26, 56687), (33, 56744), (35, 56777),

Gene: Homura_88 Start: 56621, Stop: 56782, Start Num: 20
Candidate Starts for Homura_88:
(5, 56450), (Start: 20 @56621 has 85 MA's), (24, 56642), (26, 56651), (33, 56708), (35, 56741),

Gene: Hyperbowlee_88 Start: 56818, Stop: 56979, Start Num: 20
Candidate Starts for Hyperbowlee_88:
(5, 56647), (Start: 20 @56818 has 85 MA's), (24, 56839), (26, 56848), (33, 56905), (35, 56938),

Gene: Illumine_93 Start: 57500, Stop: 57661, Start Num: 20
Candidate Starts for Illumine_93:
(Start: 20 @57500 has 85 MA's), (33, 57587),

Gene: Inky_89 Start: 56621, Stop: 56782, Start Num: 20
Candidate Starts for Inky_89:
(5, 56450), (Start: 20 @56621 has 85 MA's), (24, 56642), (26, 56651), (33, 56708), (35, 56741),

Gene: JAWS_88 Start: 56604, Stop: 56765, Start Num: 20
Candidate Starts for JAWS_88:
(Start: 20 @56604 has 85 MA's), (26, 56634), (33, 56691), (35, 56724),

Gene: Jarvi_89 Start: 56621, Stop: 56782, Start Num: 20
Candidate Starts for Jarvi_89:
(5, 56450), (Start: 20 @56621 has 85 MA's), (24, 56642), (26, 56651), (33, 56708), (35, 56741),

Gene: Jayhawk_91 Start: 56634, Stop: 56795, Start Num: 20
Candidate Starts for Jayhawk_91:
(5, 56463), (Start: 20 @56634 has 85 MA's), (26, 56664), (33, 56721), (35, 56754),

Gene: Jeckyll_89 Start: 56621, Stop: 56782, Start Num: 20
Candidate Starts for Jeckyll_89:
(5, 56450), (Start: 20 @56621 has 85 MA's), (24, 56642), (26, 56651), (33, 56708), (35, 56741),

Gene: Joy99_90 Start: 56750, Stop: 56911, Start Num: 20
Candidate Starts for Joy99_90:
(5, 56579), (Start: 20 @56750 has 85 MA's), (24, 56771), (26, 56780), (33, 56837), (35, 56870),

Gene: Krueger_93 Start: 57088, Stop: 57258, Start Num: 17
Candidate Starts for Krueger_93:
(Start: 17 @57088 has 12 MA's), (33, 57178),

Gene: LastHope_95 Start: 57401, Stop: 57562, Start Num: 20
Candidate Starts for LastHope_95:
(Start: 20 @57401 has 85 MA's), (26, 57431), (29, 57458), (33, 57488), (35, 57521),

Gene: LaterM_89 Start: 57037, Stop: 57198, Start Num: 20
Candidate Starts for LaterM_89:
(13, 56989), (Start: 20 @57037 has 85 MA's), (26, 57067), (33, 57124), (36, 57172),

Gene: LilPharaoh_71 Start: 52146, Stop: 52304, Start Num: 16
Candidate Starts for LilPharaoh_71:
(2, 51936), (4, 51990), (6, 52002), (7, 52011), (8, 52032), (10, 52065), (12, 52086), (Start: 16 @52146 has 12 MA's), (31, 52215), (35, 52269),

Gene: LindNT_87 Start: 56732, Stop: 56893, Start Num: 20
Candidate Starts for LindNT_87:
(Start: 20 @56732 has 85 MA's), (26, 56762), (33, 56819), (35, 56852),

Gene: Llorens_89 Start: 56621, Stop: 56782, Start Num: 20
Candidate Starts for Llorens_89:
(5, 56450), (Start: 20 @56621 has 85 MA's), (24, 56642), (26, 56651), (33, 56708), (35, 56741),

Gene: Lunahalos_89 Start: 56621, Stop: 56782, Start Num: 20
Candidate Starts for Lunahalos_89:
(5, 56450), (Start: 20 @56621 has 85 MA's), (24, 56642), (26, 56651), (33, 56708), (35, 56741),

Gene: MacKat_85 Start: 52182, Stop: 52343, Start Num: 20
Candidate Starts for MacKat_85:
(Start: 20 @52182 has 85 MA's), (26, 52212), (33, 52269), (35, 52302),

Gene: MarkPhew_91 Start: 56993, Stop: 57151, Start Num: 22
Candidate Starts for MarkPhew_91:
(Start: 22 @56993 has 3 MA's), (26, 57008), (30, 57041), (31, 57044),

Gene: McMater_89 Start: 57633, Stop: 57800, Start Num: 19
Candidate Starts for McMater_89:
(Start: 16 @57624 has 12 MA's), (19, 57633), (26, 57666), (31, 57702), (33, 57723),

Gene: Mdavu_71 Start: 52422, Stop: 52580, Start Num: 16
Candidate Starts for Mdavu_71:
(2, 52212), (4, 52266), (6, 52278), (7, 52287), (8, 52308), (10, 52341), (12, 52362), (Start: 16 @52422 has 12 MA's), (31, 52491), (35, 52545),

Gene: MeaningOfLife_91 Start: 57306, Stop: 57467, Start Num: 20
Candidate Starts for MeaningOfLife_91:

(5, 57135), (Start: 20 @57306 has 85 MA's), (24, 57327), (26, 57336), (33, 57393), (35, 57426),

Gene: Megsy_93 Start: 56961, Stop: 57122, Start Num: 20

Candidate Starts for Megsy_93:

(Start: 20 @56961 has 85 MA's), (26, 56991), (27, 56994), (33, 57048), (36, 57096),

Gene: Murucutumbu_89 Start: 57519, Stop: 57680, Start Num: 20

Candidate Starts for Murucutumbu_89:

(Start: 20 @57519 has 85 MA's), (33, 57606), (36, 57654),

Gene: Mynx_90 Start: 56929, Stop: 57090, Start Num: 20

Candidate Starts for Mynx_90:

(5, 56758), (Start: 20 @56929 has 85 MA's), (24, 56950), (26, 56959), (33, 57016), (35, 57049),

Gene: Nibb_91 Start: 56666, Stop: 56824, Start Num: 22

Candidate Starts for Nibb_91:

(Start: 22 @56666 has 3 MA's), (26, 56681), (30, 56714), (31, 56717),

Gene: Nikao_73 Start: 55031, Stop: 55189, Start Num: 16

Candidate Starts for Nikao_73:

(2, 54821), (4, 54875), (6, 54887), (7, 54896), (8, 54917), (10, 54950), (12, 54971), (Start: 16 @55031 has 12 MA's), (31, 55100), (35, 55154),

Gene: Niklas_90 Start: 57664, Stop: 57840, Start Num: 16

Candidate Starts for Niklas_90:

(Start: 16 @57664 has 12 MA's), (19, 57673), (26, 57703), (33, 57760),

Gene: Nutello_70 Start: 52418, Stop: 52576, Start Num: 16

Candidate Starts for Nutello_70:

(2, 52208), (4, 52262), (6, 52274), (7, 52283), (8, 52304), (10, 52337), (12, 52358), (Start: 16 @52418 has 12 MA's), (31, 52487), (35, 52541),

Gene: Padfoot_89 Start: 56818, Stop: 56979, Start Num: 20

Candidate Starts for Padfoot_89:

(5, 56647), (Start: 20 @56818 has 85 MA's), (24, 56839), (26, 56848), (33, 56905), (35, 56938),

Gene: Padpat_93 Start: 57216, Stop: 57383, Start Num: 18

Candidate Starts for Padpat_93:

(3, 57003), (9, 57099), (14, 57180), (Start: 18 @57216 has 3 MA's), (23, 57240), (26, 57252), (33, 57309), (35, 57342),

Gene: Peanam_90 Start: 57643, Stop: 57819, Start Num: 16

Candidate Starts for Peanam_90:

(Start: 16 @57643 has 12 MA's), (26, 57685), (31, 57721), (33, 57742),

Gene: Peel_89 Start: 56623, Stop: 56784, Start Num: 20

Candidate Starts for Peel_89:

(5, 56452), (Start: 20 @56623 has 85 MA's), (24, 56644), (26, 56653), (33, 56710), (35, 56743),

Gene: PhelpsODU_86 Start: 53663, Stop: 53833, Start Num: 17

Candidate Starts for PhelpsODU_86:

(Start: 17 @53663 has 12 MA's), (33, 53753),

Gene: Phrank_96 Start: 57882, Stop: 58046, Start Num: 17

Candidate Starts for Phrank_96:

(Start: 17 @57882 has 12 MA's), (33, 57972),

Gene: Piatt_88 Start: 56818, Stop: 56979, Start Num: 20

Candidate Starts for Piatt_88:

(5, 56647), (Start: 20 @56818 has 85 MA's), (24, 56839), (26, 56848), (33, 56905), (35, 56938),

Gene: Pisa1_90 Start: 57122, Stop: 57313, Start Num: 15

Candidate Starts for Pisa1_90:

(11, 57062), (15, 57122), (Start: 18 @57146 has 3 MA's), (26, 57182), (33, 57239), (35, 57272), (37, 57296),

Gene: Pisa4_84 Start: 52515, Stop: 52682, Start Num: 18

Candidate Starts for Pisa4_84:

(11, 52431), (15, 52491), (Start: 18 @52515 has 3 MA's), (26, 52551), (33, 52608), (35, 52641), (37, 52665),

Gene: Pokerus_89 Start: 56627, Stop: 56788, Start Num: 20

Candidate Starts for Pokerus_89:

(5, 56456), (Start: 20 @56627 has 85 MA's), (24, 56648), (26, 56657), (33, 56714), (35, 56747),

Gene: Prithvi_91 Start: 57030, Stop: 57191, Start Num: 20

Candidate Starts for Prithvi_91:

(5, 56859), (Start: 20 @57030 has 85 MA's), (26, 57060), (33, 57117), (35, 57150),

Gene: QuincyRose_87 Start: 56630, Stop: 56791, Start Num: 20

Candidate Starts for QuincyRose_87:

(Start: 20 @56630 has 85 MA's), (24, 56651), (26, 56660), (33, 56717), (35, 56750),

Gene: Ramen_90 Start: 56373, Stop: 56534, Start Num: 20

Candidate Starts for Ramen_90:

(Start: 20 @56373 has 85 MA's), (24, 56394), (26, 56403), (33, 56460), (35, 56493),

Gene: Rapunzel97_91 Start: 56589, Stop: 56750, Start Num: 20

Candidate Starts for Rapunzel97_91:

(5, 56418), (Start: 20 @56589 has 85 MA's), (26, 56619), (33, 56676), (35, 56709),

Gene: Richo_89 Start: 57633, Stop: 57800, Start Num: 19

Candidate Starts for Richo_89:

(Start: 16 @57624 has 12 MA's), (19, 57633), (26, 57666), (31, 57702), (33, 57723),

Gene: Rosmarinus_89 Start: 56609, Stop: 56770, Start Num: 20

Candidate Starts for Rosmarinus_89:

(5, 56438), (Start: 20 @56609 has 85 MA's), (24, 56630), (26, 56639), (33, 56696), (35, 56729),

Gene: SamuelLPlaqson_89 Start: 56880, Stop: 57047, Start Num: 20

Candidate Starts for SamuelLPlaqson_89:

(Start: 20 @56880 has 85 MA's), (33, 56967), (35, 57000),

Gene: SgtBeansprout_71 Start: 52418, Stop: 52576, Start Num: 16

Candidate Starts for SgtBeansprout_71:

(2, 52208), (4, 52262), (6, 52274), (7, 52283), (8, 52304), (10, 52337), (12, 52358), (Start: 16 @52418 has 12 MA's), (31, 52487), (35, 52541),

Gene: Shadow1_93 Start: 57228, Stop: 57392, Start Num: 17
Candidate Starts for Shadow1_93:
(Start: 17 @57228 has 12 MA's), (33, 57318),

Gene: Shaobing_89 Start: 57705, Stop: 57881, Start Num: 16
Candidate Starts for Shaobing_89:
(Start: 16 @57705 has 12 MA's), (19, 57714), (26, 57744), (33, 57801),

Gene: ShiaSurprise_90 Start: 56818, Stop: 56979, Start Num: 20
Candidate Starts for ShiaSurprise_90:
(5, 56647), (Start: 20 @56818 has 85 MA's), (24, 56839), (26, 56848), (33, 56905), (35, 56938),

Gene: SirPhilip_89 Start: 56815, Stop: 56958, Start Num: 22
Candidate Starts for SirPhilip_89:
(Start: 22 @56815 has 3 MA's), (24, 56821), (30, 56863), (33, 56887),

Gene: Slimphazie_91 Start: 57045, Stop: 57206, Start Num: 20
Candidate Starts for Slimphazie_91:
(5, 56874), (Start: 20 @57045 has 85 MA's), (26, 57075), (33, 57132), (35, 57165),

Gene: Spock_89 Start: 56622, Stop: 56783, Start Num: 20
Candidate Starts for Spock_89:
(5, 56451), (Start: 20 @56622 has 85 MA's), (24, 56643), (26, 56652), (33, 56709), (35, 56742),

Gene: Stinson_90 Start: 56798, Stop: 56959, Start Num: 20
Candidate Starts for Stinson_90:
(Start: 20 @56798 has 85 MA's), (33, 56885),

Gene: Sulley_86 Start: 56193, Stop: 56354, Start Num: 20
Candidate Starts for Sulley_86:
(Start: 20 @56193 has 85 MA's), (26, 56223), (33, 56280), (35, 56313),

Gene: Sunflower1121_93 Start: 56987, Stop: 57151, Start Num: 17
Candidate Starts for Sunflower1121_93:
(Start: 17 @56987 has 12 MA's), (33, 57077),

Gene: Syra333_92 Start: 57044, Stop: 57214, Start Num: 17
Candidate Starts for Syra333_92:
(Start: 17 @57044 has 12 MA's), (33, 57134),

Gene: TClif_89 Start: 56195, Stop: 56344, Start Num: 20
Candidate Starts for TClif_89:
(Start: 20 @56195 has 85 MA's), (Start: 21 @56198 has 1 MA's), (25, 56213), (32, 56261), (33, 56270), (34, 56282), (37, 56327),

Gene: Tachez_89 Start: 56466, Stop: 56627, Start Num: 20
Candidate Starts for Tachez_89:
(5, 56295), (Start: 20 @56466 has 85 MA's), (24, 56487), (26, 56496), (33, 56553), (35, 56586),

Gene: TaiwanKao_90 Start: 56670, Stop: 56831, Start Num: 20

Candidate Starts for TaiwanKao_90:
(Start: 20 @56670 has 85 MA's), (26, 56700), (33, 56757), (35, 56790),

Gene: Teejan_72 Start: 55031, Stop: 55189, Start Num: 16
Candidate Starts for Teejan_72:
(2, 54821), (4, 54875), (6, 54887), (7, 54896), (8, 54917), (10, 54950), (12, 54971), (Start: 16 @55031 has 12 MA's), (31, 55100), (35, 55154),

Gene: Tierra_96 Start: 58508, Stop: 58678, Start Num: 17
Candidate Starts for Tierra_96:
(Start: 17 @58508 has 12 MA's), (33, 58598),

Gene: Tigress9_94 Start: 57416, Stop: 57586, Start Num: 17
Candidate Starts for Tigress9_94:
(Start: 17 @57416 has 12 MA's), (33, 57506),

Gene: TingHuaYa_93 Start: 57729, Stop: 57890, Start Num: 20
Candidate Starts for TingHuaYa_93:
(5, 57558), (Start: 20 @57729 has 85 MA's), (26, 57759), (29, 57786), (33, 57816), (35, 57849),

Gene: TiniBug_88 Start: 56996, Stop: 57163, Start Num: 20
Candidate Starts for TiniBug_88:
(Start: 20 @56996 has 85 MA's), (33, 57083), (35, 57116),

Gene: Tiri_89 Start: 56360, Stop: 56521, Start Num: 20
Candidate Starts for Tiri_89:
(Start: 20 @56360 has 85 MA's), (26, 56390), (33, 56447), (35, 56480),

Gene: Topper_89 Start: 56621, Stop: 56782, Start Num: 20
Candidate Starts for Topper_89:
(5, 56450), (Start: 20 @56621 has 85 MA's), (24, 56642), (26, 56651), (33, 56708), (35, 56741),

Gene: Torres_73 Start: 55032, Stop: 55190, Start Num: 16
Candidate Starts for Torres_73:
(2, 54822), (4, 54876), (6, 54888), (7, 54897), (8, 54918), (10, 54951), (12, 54972), (Start: 16 @55032 has 12 MA's), (31, 55101), (35, 55155),

Gene: TreyKay_91 Start: 57030, Stop: 57191, Start Num: 20
Candidate Starts for TreyKay_91:
(5, 56859), (Start: 20 @57030 has 85 MA's), (26, 57060), (33, 57117), (35, 57150),

Gene: Trice_70 Start: 52419, Stop: 52577, Start Num: 16
Candidate Starts for Trice_70:
(2, 52209), (4, 52263), (6, 52275), (7, 52284), (8, 52305), (10, 52338), (12, 52359), (Start: 16 @52419 has 12 MA's), (31, 52488), (35, 52542),

Gene: TruffulaTree_91 Start: 57011, Stop: 57172, Start Num: 20
Candidate Starts for TruffulaTree_91:
(5, 56840), (Start: 20 @57011 has 85 MA's), (26, 57041), (33, 57098), (35, 57131),

Gene: Twitch_89 Start: 56623, Stop: 56784, Start Num: 20
Candidate Starts for Twitch_89:
(5, 56452), (Start: 20 @56623 has 85 MA's), (24, 56644), (26, 56653), (33, 56710), (35, 56743),

Gene: Unicorn_96 Start: 58291, Stop: 58461, Start Num: 17

Candidate Starts for Unicorn_96:

(Start: 17 @58291 has 12 MA's), (33, 58381),

Gene: Urkel_89 Start: 56880, Stop: 57047, Start Num: 20

Candidate Starts for Urkel_89:

(Start: 20 @56880 has 85 MA's), (33, 56967), (35, 57000),

Gene: Validus_95 Start: 58505, Stop: 58669, Start Num: 21

Candidate Starts for Validus_95:

(1, 58148), (5, 58331), (Start: 21 @58505 has 1 MA's), (28, 58559), (31, 58571), (33, 58592),

Gene: Veliki_90 Start: 56589, Stop: 56750, Start Num: 20

Candidate Starts for Veliki_90:

(Start: 20 @56589 has 85 MA's), (26, 56619), (33, 56676), (35, 56709),

Gene: Ximenita_95 Start: 57796, Stop: 57960, Start Num: 17

Candidate Starts for Ximenita_95:

(Start: 17 @57796 has 12 MA's), (33, 57880), (34, 57892),

Gene: YoureAdopted_88 Start: 56415, Stop: 56576, Start Num: 20

Candidate Starts for YoureAdopted_88:

(Start: 20 @56415 has 85 MA's), (24, 56436), (26, 56445), (33, 56502), (35, 56535),

Gene: Yuna_92 Start: 58580, Stop: 58747, Start Num: 17

Candidate Starts for Yuna_92:

(Start: 17 @58580 has 12 MA's), (33, 58670), (34, 58682),

Gene: Yunkel11_94 Start: 57232, Stop: 57393, Start Num: 20

Candidate Starts for Yunkel11_94:

(Start: 20 @57232 has 85 MA's), (33, 57319),

Gene: Zabiza_85 Start: 52962, Stop: 53123, Start Num: 20

Candidate Starts for Zabiza_85:

(Start: 20 @52962 has 85 MA's), (26, 52992), (33, 53049), (35, 53082),

Gene: Zavala_91 Start: 56880, Stop: 57041, Start Num: 20

Candidate Starts for Zavala_91:

(Start: 20 @56880 has 85 MA's), (24, 56901), (26, 56910), (33, 56967), (35, 57000),